

Patent  
Attorney Docket No. 032722-571

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Reissue Patent Application of )  
U.S. Patent No. 4,984,972 ) **MAIL STOP - Reissue**  
Inventor: Earl W. CLAUSEN et al. )  
Issue: January 15, 1991 )  
For: CENTRIFUGAL BLOOD PUMP )

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, applicant for reissue patent hereby makes of record, and attaches copies of the following documents:

A) LAING U.S. Patent No. 3,771,910 previously made of record during prosecution of U.S. Patent No. 4,984,972, discloses a centrifugal pump in which an impeller is rotatably mounted within a housing. The impeller includes a central boss 9 rotatably mounted on a bearing ball 11. Pressure-equalization holes 16 are formed in the central boss. In an embodiment disclosed in Fig. 1, a portion of the blood pumping chamber disposed beneath the underside of the impeller communicates with a remainder of the pumping chamber at an outer periphery of the impeller and is obstructed from the bearing 11 by a seal element 17. In the Fig. 2 embodiment, a seal element is designated by numeral 20. In the Fig. 3 embodiment, a seal element is designated by numeral 35. In the Fig. 4 embodiment, a seal element is designated by numeral 42.

B) Copy of originally submitted claims of European Patent Application No. 90311634.1 which is a counterpart of U.S. Patent 4,984,972, including.

- 1) European Search Report dated June 7, 1991 in the EP Application
- 2) First Official action from the EPO, dated November 12, 1992 in the EP Application
- 3) Response to the first Official action, dated May 7, 1993 in the EP Application
- 4) Second Official action dated July 23, 1993 in the EP Application
- 5) Response to second Official action, dated November 23, 1993 in the EP Application
- 6) Communication from EPO informing of intent to grant a patent, dated February 25, 1994 in the EP Application

C) Letter from Christie Parker & Hale dated March 5, 2003 regarding U.S. Patent 4,984,972.

D) Engineers Digest, Vol 32, No. 7, July 1971, pg 41 (cited by European Patent Office)

E) Preliminary Amendment and Translation of claims 1 and 2, dated February 7, 1997 from Prosecution History of Japanese Patent Application H2(1991)-286937 which is a counterpart of U.S. patent No. 4,984,972, including:

- 1) Office action and translation dated August 28, 1998 in the Japanese Application
- 2) Amendment and translation dated February 18, 1999

F) Japanese Published Unexamined Patent Application No. S64(1989)-073194 cited by Japanese Patent Office, and English translation

G) DE-B-2 200 599 and English language counterpart, British Patent No. 1,383 811.

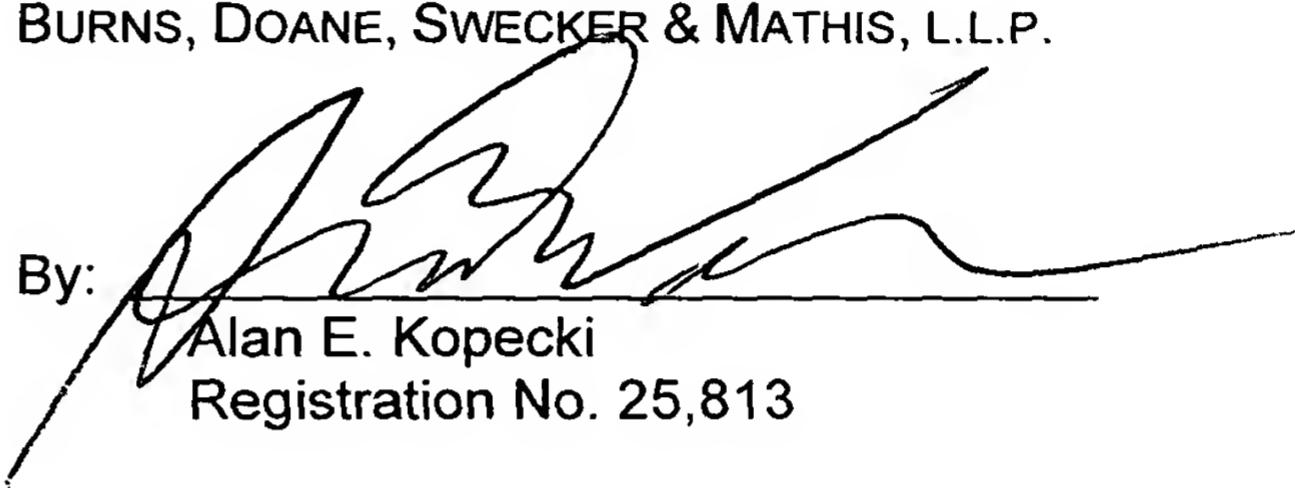
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The cited references are listed on the attached Information Disclosure  
Citation form (PTO-1449). It is respectfully requested that an Examiner-initialed  
copy of this form be returned to the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:



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Date: July 28, 2003

Substitute for forms 1449A/PTO & 1449B/PTO	ATTORNEY DKT NO. 032722-571	APPLICATION NO.
<b>FIRST INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	APPLICANT Earl W. CLAUSEN et al.	GROUP
	FILING DATE	

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

## NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	<p>Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.</p> <p>ENGINEERS DIGEST, Vol. 32, No. 7, pg 41, July 1971 (excerpt from Laing-Physikatisch-Tecknisches Forschungsinstitut "Magnetic suspension and shaftless drive system for pumps", Stuttgart, DE)</p>

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

\*U.S. counterpart of WO-A-8907427 cited in EP (Exhibit E1)

\*\*See English language counterpart application 1,383,811 (Great Britain)